

MOBIUS[®] COMMAND & CONTROL

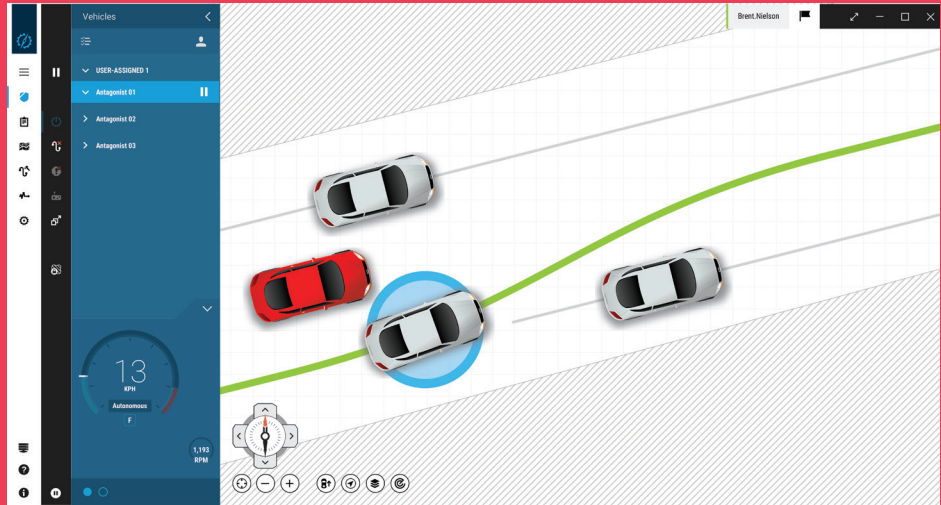


Fleet Management and Command & Control Software for Autonomously Testing Vehicles



MOBIUS®

FLEET MANAGEMENT AND COMMAND & CONTROL FOR AUTONOMOUSLY TESTING VEHICLES



MOBIUS® ADD-ONS

ADAS SWARMING

Swarming allows the user to create or import choreographed test scenarios to validate ADAS technology.



Host Vehicle

The host vehicle contains the systems and sensors to be tested. The test maneuver places the host vehicle on a path with other robot driven vehicles.



Target Vehicles

A swarm of target vehicles, each equipped with ASI's automation technology, follow a pre-planned path to create the test scenario. Accuracy and repeatability of tests is greatly increased. The choreographed maneuvers navigate the swarm of target vehicles around the host vehicle in predefined sequences that stress and validate the driver assist systems in development.



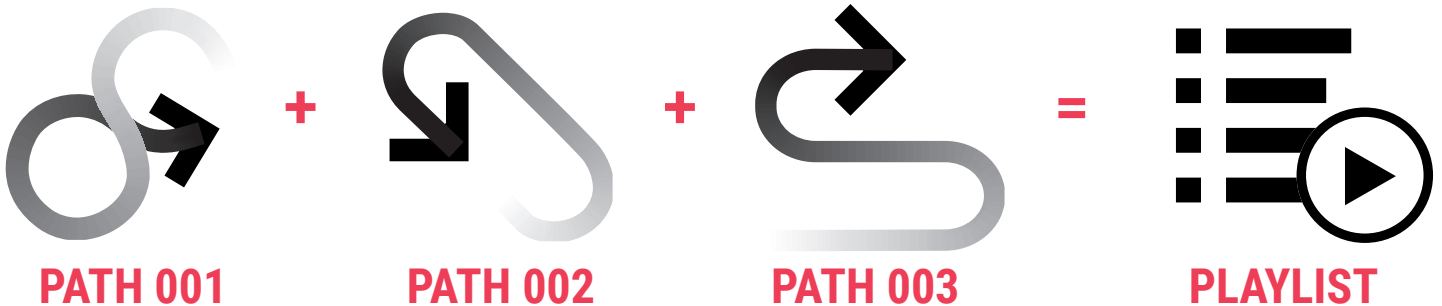
BASIC FUNCTIONALITY & OPTIONS

ASI's **Mobius software** has been over 20 years in the making and provides the best possible suite of features and add-ons unparalleled anywhere in the industry, including:

- **SWARMING**
- **PLAYLISTS**
- **CONVOY**
- **GEO FENCING**
- **MULTIPLE VEHICLE CONTROL**
- **MIXED FLEETS**
- **CUSTOM PATHS**
- **ASSIGNED TASKS ON PATHS**
- **SAFETY CHECKS**
- **USER PERMISSIONS**

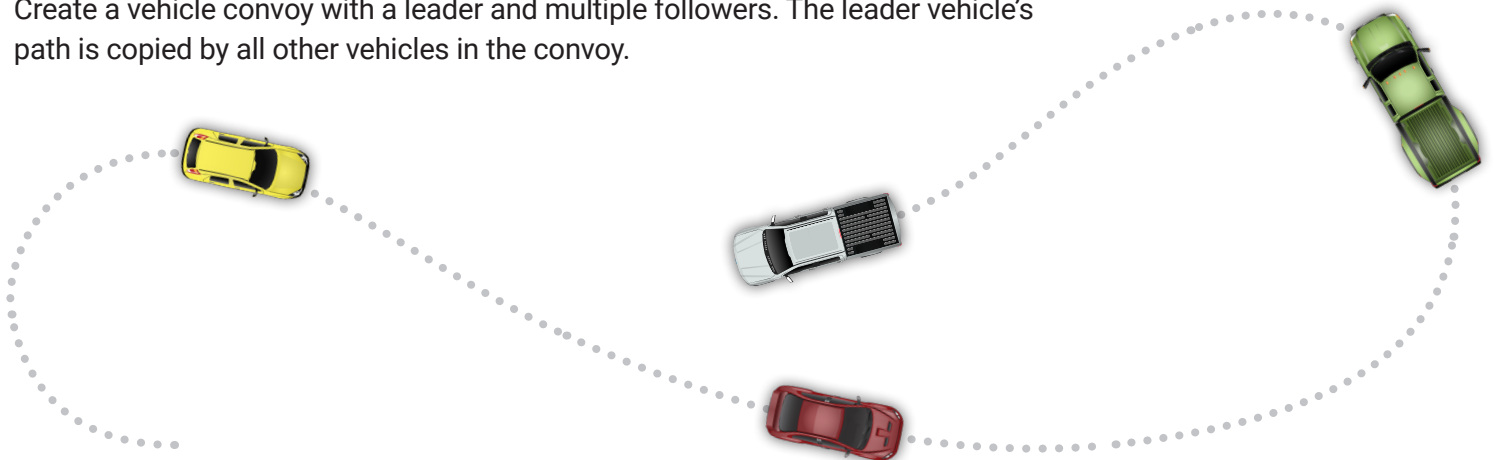
PLAYLISTS

Combine paths into a single larger list of assignments for repeated use. Playlists can be run once or automatically repeated. Paths are run in the order in which they appear in the playlist connected by dynamically planned connecting paths.



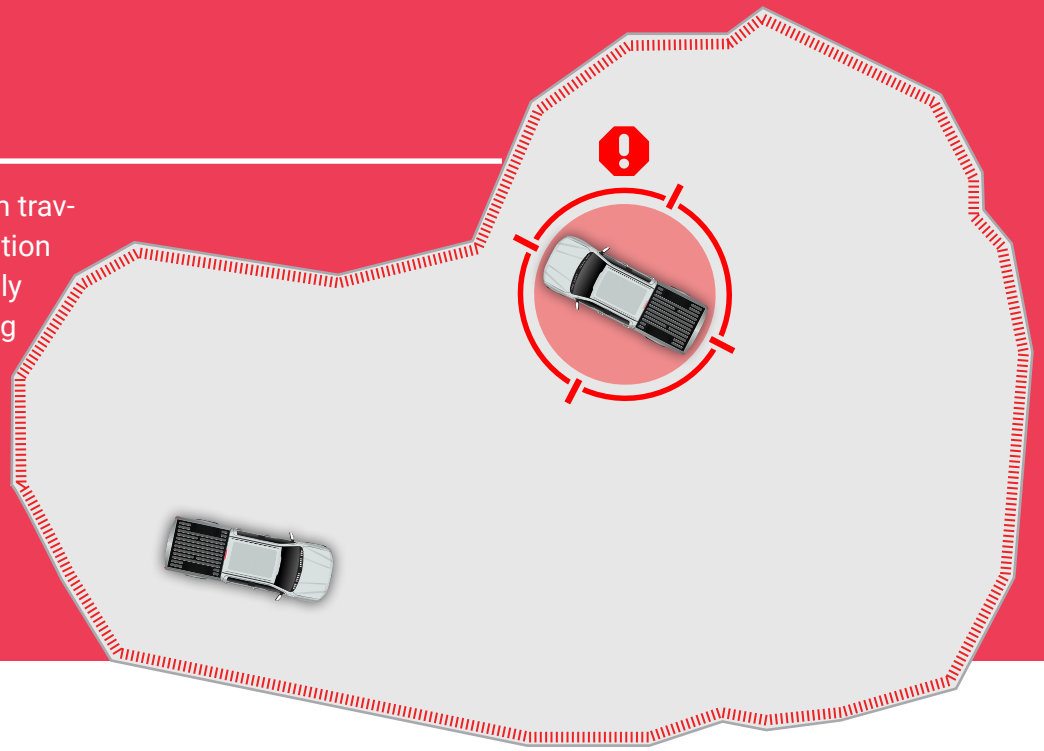
CONVOY

Create a vehicle convoy with a leader and multiple followers. The leader vehicle's path is copied by all other vehicles in the convoy.



GEO FENCING

Keep your autonomous vehicles from traveling outside the Autonomous Operation Zone (AOZ). Mobius will automatically trigger an eStop to any vehicle getting too close to the virtual fence—or, bring all autonomous vehicles to a stop if any manned vehicle enters the AOZ.



TELE-OPERABLE

Control your autonomous vehicles from the comfort and safety of the office with ASI's remote control equipment.

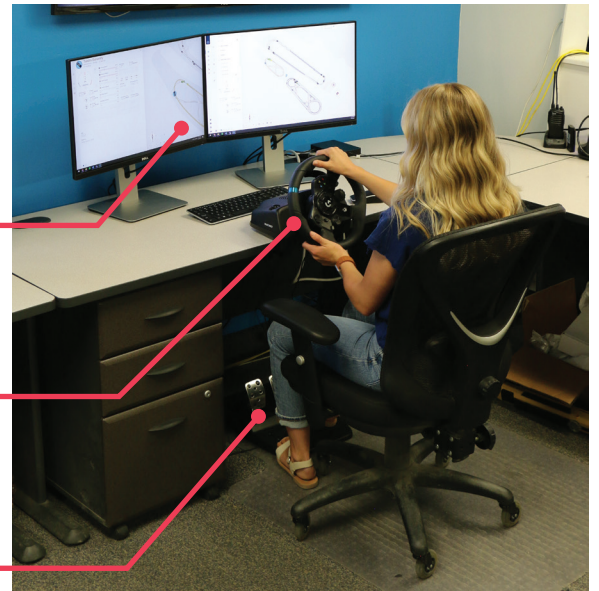
Mobius® provides the site map, gauges, and controls to allow for remote control of your autonomous fleet.



Steering wheel with button controls for additional functionality allows you to perform maneuvers and much more!



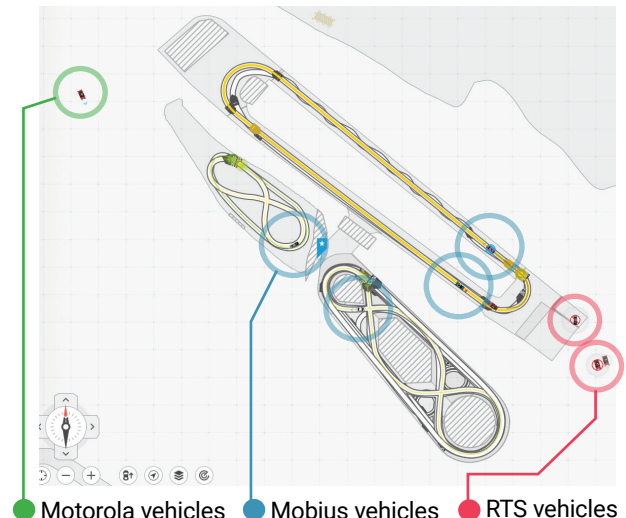
Foot pedals provide throttle and dead man's switch.



MONITORED ASSETS

Monitored assets are people or manned vehicles equipped with tracking devices that check-in to the Mobius software and constantly report the asset's position. This allows Mobius to use its built-in monitoring system to help prevent collisions between autonomous vehicles and any monitored assets.

Positioning data can be provided by a host of third-party tracking systems such as: Motorola, Portable Locators, Report Tracking Systems (RTS), and GPS Monitored Assets.

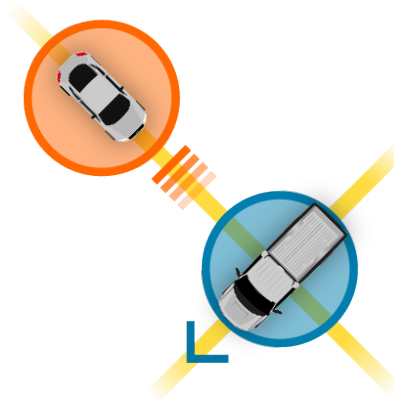


● Motorola vehicles ● Mobius vehicles ● RTS vehicles

SAFETY CHECKS

Mobius automatically performs many routine safety checks such as preventing vehicles leaving the map, entering obstacles, or colliding with other vehicles. It also handles low level safety checks like comparing GPS velocity and vehicle velocity, ensuring vehicles follow prescribed paths, checking vehicle actuation performance, communications syncing and many others.

Monitor vehicle health data in real-time via CAN, and set limits, triggers, and events around that data.



USER PERMISSIONS

Security and simplicity are often overlooked by users if the product is well designed—the best security is that which isn't noticed and simplicity refuses to draw undue attention to itself. Mobius provides a rich assortment of user access options based on login credentials. Not only does this prevent unauthorized personnel from making changes, but it keeps the user interface clear of needless clutter by showing only those features a specific user is privy to.



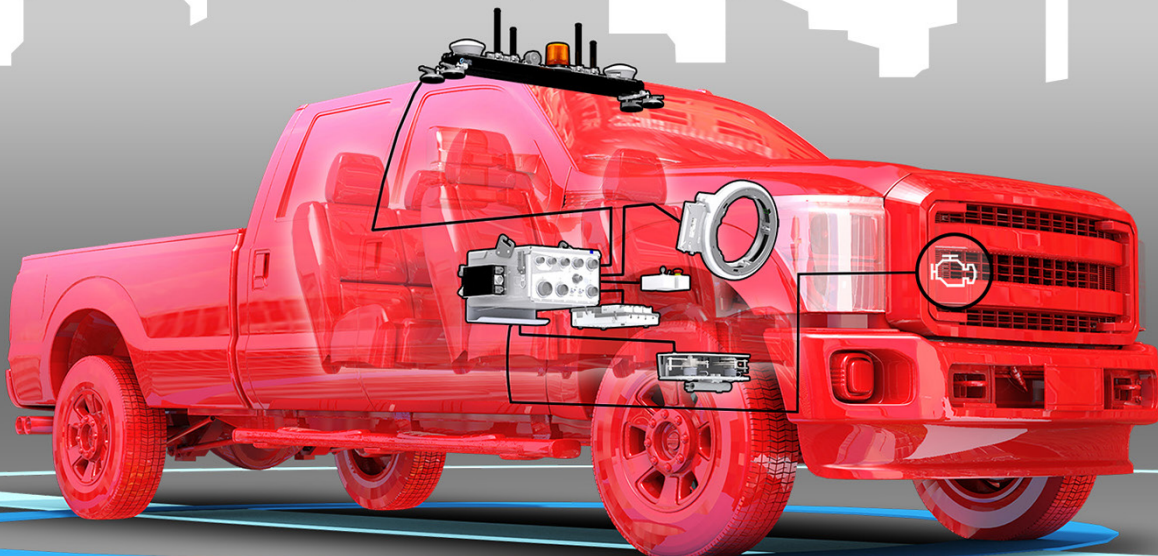
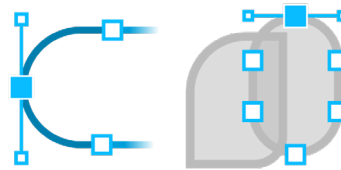
VAK HARDWARE OEM AGNOSTIC

The Vehicle Automation Kit (VAK) consists of hardware components that allow the robot to drive the vehicle. The Mobius software talks to these components or other third-party or Drive-By-Wire products commanding the vehicle to steer, accelerate, brake, change gears, etc.

These components are brand/OEM independent and can be installed on nearly any vehicle make or model.

PATH GENERATION & EVENT PLANNING

Design your own custom paths to test your fleet of vehicles. Assign events for the vehicles to perform at set points along the path. Customize these paths to your site for top efficiency.





Gain a Competitive Advantage in Testing

Global Partners



TOYOTA



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Support

Our dedicated and knowledgeable support staff are here to help.

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Installation & Training

ASI offers initial installation and training to get your equipment up and running.

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